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Tylenchorhynchus claytoni Steiner 1937

THE TOBACCO STUNT NEMATODE

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Tylenchorhynchus claytoni, the tobacco stunt nematode, was described in 1937 by G. Steiner from tobacco root specimens which were collected by E. E. Clayton in Florence, South Carolina (16, 23). This nematode is a migratory ectoparasite and is known to feed upon the roots of a wide variety of plant hosts (15). It is hosted by or reported to be associated with at least 100 species of plants (2, 13, 14, 15, 16, 17, 18, 23, 26). A host list is being prepared for publication at a later date.

In the United States the tobacco stunt nematode has been reported from Alabama, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Kentucky, Louisiana, Maryland, Massachusetts, Mississippi, North Carolina, Oregon, Rhode Island, Texas, Virginia, West Virginia, and Wisconsin (1, 2, 5, 8, 9, 16, 18, 25, 27). It has also been reported from Belgium, Canada, Denmark, Great Britain, Holland, India, Japan, Netherlands, and Switzerland (1, 16, 20).

Tylenchorhynchus claytoni, as a parasite of tobacco, can cause moderate stunting with reduction of top growth (7). Investigations indicate that roots of infected tobacco plants are stunted and shriveled and display loss of turgor. They appear to grow in a dense clumped mass and evidence neither observable lesions nor decay (10). In varieties of tobacco susceptible to wilt caused by *Fusarium oxysporum* (Schlecht.) Wr. var. *nicotianae* J. Johnson, the tobacco stunt nematode is known to increase the incidence of wilt (11, 20, 26).

This nematode has been demonstrated to be pathogenic to some grasses and is associated with nematode damage to others. Where pathogenicity has been proven, symptoms of root injury have ranged from destruction below a depth of 10 cm, to no observable root injury (9, 13, 15, 16, 19).

The tobacco stunt nematode is a common parasite of azaleas. Nematode activity is reflected in smaller root systems, reduced top growth, and, in some instances, chlorosis (3, 4, 5, 22). Further, this nematode can predispose azaleas to root infection and rot by *Phytophthora cinnamomi* Rands (6). It is parasitic to a variety of pine species and is associated with unthriftiness, chlorosis, and death of pine nursery seedlings (12, 16, 19, 20, 21, 24). It can lead to reduced root systems in corn and has been associated with stunting in the field (15, 18).

Survey and Detection:

1. Examine top parts of plants for stunting, chlorosis, or general unthriftiness.

2. Submit approximately one pint of soil from the root area of the plant to a nematology laboratory.

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